[characterized in that] said gene of therapeutic interest encodes all or part of an antibody which will be expressed at the surface of said target cell, wherein said antibody is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell.

2. (Amended) The biological material according to claim 1, wherein said nucleic acid sequence is in the form of a naked DNA or RNA sequence.

3. (Amended) The biological material according to claim 1, wherein said nucleic acid sequence is a vector which allows the transfer of said gene of therapeutic interest into said target cells.

4. (Amended) The biological material according to claim 3, wherein said vector is a viral vector.

5. (Amended) The biological material according to claim 4, wherein said viral vector is an adenoviral or retroviral vector, or a poxvirus, optionally derived from the vaccinia virus or from the Modified Virus Ankara (MVA).

6. (Amended) The biological material according to claim 3, wherein said vector comprises at least one said nucleic acid sequence complexed with or substance selected from the group consisting of a cationic amphiphile, a cationic or neutral polymer, a protic polar compound, and an aprotic polar compound, or their derivatives.

7. (Amended) The biological material according to claim 1, when said nucleic acid sequence comprises a gene encoding the heavy chain of an antibody capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T

lymphocyte, and which is involved in the process of activation of such a cell, fused with a transmembrane polypeptide.

8. (Amended) The biological material according to claim 7, wherein said nucleic acid sequence further contains a gene encoding the light chain of an antibody capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell.

9. (Amended) The biological material according to claim 7, wherein said transmembrane polypeptide is selected from the group consisting of a glycoprotein, a lipoprotein and a membrane receptor.

10. (Amended) The biological material according to claim 9, wherein said transmembrane polypeptide is selected from the group consisting of the rabies virus glycoprotein, gpl6O and CD4.

11. (Amended) The biological material according to claim 1, wherein said polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell, is a receptor.

12. (Amended) The biological material according to claim 11, wherein said cytotoxic effector cell is selected from the group consisting of macrophages, cytotoxic T lymphocytes (TCLS) and killer cells (NKs) or their derived cells.

13. (Amended) The biological material according to claim 11, wherein said receptor comprising all or part of the TCR complex.

14. (Amended) The biological material according to claim 1, wherein said target cell is a mammalian tumor cell, a mammalian cell infected with a viral pathogenic agent, or a mammalian cell infected with a bacterial pathogenic agent.

15. (Amended) The biological material according to claim 1, which comprises at least one target cell which does not naturally produce antibodies, in a form which allows their administration to the body of a mammal, and optionally their culturing beforehand, said cell being genetically modified *in vitro* with at least one nucleic acid sequence containing at least one gene encoding all or part of an antibody which is expressed at the surface of said target cell, and wherein said antibody is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell.

16. (Amended) The biological material according to claim 15, wherein said target cells originate from the mammal to be treated.

17. (Amended) The biological material according to claim 15, wherein said target cells originate from a mammal other than the one to be treated and have undergone a treatment making them compatible.

18. (Amended) The biological material according to claim 1, which further comprises at least one DNA sequence which ensures the expression of a compound which is involved in the activation of cytotoxic effector cells or of helper T lymphocytes.

Kindly cancel claim 19 without prejudice or disclaimer.

20. (Amended) A method for a nucleic acid sequence containing at least one gene of therapeutic interest and elements which ensure the expression of said gene *in vivo*

in target cells genetically modified with a said nucleic acid sequence, said gene of therapeutic interest encoding all or part of an antibody which is expressed at the surface of said target cell, and which is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell, for preparing pharmaceutical compositions intended for treating a mammal by gene transfer.

A2

21. (Amended) Pharmaceutical composition comprising a biological material according to claim 1, advantageously in combination with a pharmaceutically acceptable vehicle.

Kindly cancel claim 22 without prejudice or disclaimer.

23. (Amended) Pharmaceutical composition according to claim 29, characterized in that said compound is a cytokine or a chemokine.

24. (Amended) Mammalian cell which does not naturally produce antibodies, which is genetically modified with at least one nucleic acid sequence containing at least one gene of therapeutic interest and elements which ensure the expression of said gene in said cell, said gene of therapeutic interest encoding all or part of an antibody which is expressed at the surface of said genetically modified cell, and wherein said antibody is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell.

A3

25. (Amended) Method for preparing a cell according to claim 24, said method comprising an effective amount of at least one nucleic acid sequence containing at least one gene of therapeutic interest and elements which ensure the expression of said gene in said

cell, said gene of therapeutic interest encoding all or part of an antibody which is expressed at the surface of said genetically modified cell, into a mammalian cell which does not naturally produce antibodies, by any suitable means, and wherein said antibody is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell, and selecting those cells which are genetically modified with said nucleic acid sequence.

A3

Kindly add the following new claims:

--.26. The biological material according to claim 6, wherein said cationic amphiphile is a cationic lipid, said protic polar compound is selected from the group consisting of propylene glycol, polyethylene glycol, glycerol, ethanol and 1-methyl-L-2-pyrrolidone of their derivatives, and said aprotic polar compound is selected from the group consisting of dimethyl sulfoxide (DMSO), diethyl sulfoxide, di-n-propyl sulfoxide, dimethylsulfone, sulfolane, dimethylformamide, dimethyl-acetamide, tetramethylurea and acetonnitrile.--

A4

--27. The biological material according to claim 13, wherein said TCR complex comprises TCR-α, TCR-β or CD3, CD8, CD4, CD28, LFA-1, 4-IBB, CD47, CD2, CD9, CD45, CD40, receptors for cytosine, such as IL-7, IL-4, IL-2, IL-15 or GM-CSF, Vαl4NKT, NKAR and the Fc receptor.--

--28. A method for treating or preventing cancer in viral infections comprising administering to a patient in need of such prevention or treatment an effective amount of:

- either at least one nucleic acid sequence containing at least one gene of therapeutic interest and elements which ensure the expression of said gene in vivo in target cells intended to be genetically modified with said nucleic acid sequence;

- or at least one target cell which does not naturally produce antibodies and which is genetically modified in vitro with at least one nucleic acid sequence above,

said gene of therapeutic interest encodes all or part of an antibody which will be expressed at the surface of said target cell, wherein said antibody is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell.--

A4

--29. A pharmaceutical composition comprising:

- or at least one target cell which does not naturally produce antibodies and which is genetically modified in vitro with at least one nucleic acid sequence above, said gene of therapeutic interest encodes all or part of an antibody which will be expressed at the surface of said target cell, wherein said antibody is capable of binding to a polypeptide which is present at the surface of a cytotoxic effector cell or of a helper T lymphocyte, and which is involved in the process of activation of such a cell, and a compound which is naturally _ for the activation of cytotoxic effector cells of helper T lymphocytes, and a pharmaceutically acceptable vehicle.